

# **High-resolution Intelligent Rotor Machine Diagnostic System and Method**

## **Abstract**

The present invention relates to a smart system and method of performing high-resolution frequency order analysis/diagnosis on rotor, in which such system is characterized in that capable of performing order analysis via a Kalman filter or a RLS (Recursive Least Square) algorithm while determining the failure status based on the Fuzzy theory. The smart system of present invention comprises a data acquisition means, a bench data setup means, a STFT time-spectra analysis/re-sampled order tracking means, a Kalman filter or RLS algorithmic means, a fuzzy diagnosis means and a window interface (e.g., GUI) while repeatedly making use the functions of those means so as to achieve the real-time diagnosis on rotor.